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| EXAMINER |
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2881

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/493,226

Applicant(s)

ALEXANDER ET AL.

Examiner

Anthony Quash

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 40, 61, 124, and 140. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 21 and 41 recites the limitation "each quartet" in claims 20 and 40 respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1,2,5,10,15-18, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Maarschalkerweerd [390]. As per claims 1, Maarschalkerweed [390] discloses a radiation source module for use in a fluid treatment system, the module comprising a substantially elongate first support member (160) having a longitudinal first axis; and a first pair of radiation source assemblies (176) extending from the first support member (160); each radiation source assembly comprising a radiation source (180); wherein the first pair of radiation source assemblies (176) is oriented such that a second axis extending through a center point of each radiation source assembly (176) is

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disposed at angle with respect to the first axis. See Maarschalkerweed [390] figs. 3-4, 6, col. 1 lines 55-60, col. 4 lines 50-62, col. 5 lines 45-67, col. 6 lines 1-67, col. 7 lines 1-10, 40-65, col. 9 lines 1-5, col. 10 lines 1-15 and 55-65.

As per claim 2, Maarschalkerweed [390] discloses the radiation source module (176) wherein the angle is about 90 degrees. See Maarschalkerweed [390] fig. 3.

As per claim 5, Maarschalkerweed [390] discloses that the radiation source assemblies (176) are cantilevered from the first support member (160). See Maarschalkerweed [390] fig. 3.

As per claim 10, Maarschalkerweed [390] discloses a first elongate connector (192) between the first support member (160) and a first radiation source assembly (176) and a second elongate connector (192) between the first support member (160) and a second radiation source assembly (176). See Maarschalkerweed [390] figs. 3-4.

As per claim 15, Maarschalkerweed [390] discloses a cleaning system for removing fouling materials from an exterior of the radiation source assemblies. See Maarschalkerweed [390] figs. 4, 6 and col. 6 lines 35-67 and column 7.

As per claim 16, Maarschalkerweed [390] discloses the cleaning system comprising a cleaning ring (308) for engagement with a portion of the exterior of the radiation source assemblies and motive means to translate the slidable member over the exterior of the radiation source assembly (328). See Maarschalkerweed [390] col. 7 lines 1-10, col. 9 lines 1-20, 60-67 and col. 10 lines 1-15.

As per claim 17, Maarschalkerweed [390] discloses the cleaning ring comprising a chamber (244) for surrounding a portion of the exterior of the radiation source

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disposed at angle with respect to the first axis. See Maarschalkerweed [390] figs. 3-4, 6, col. 1 lines 55-60, col. 4 lines 50-62, col. 5 lines 45-67, col. 6 lines 1-67, col. 7 lines 1-10, 40-65, col. 9 lines 1-5, col. 10 lines 1-15 and 55-65.

As per claim 2, Maarschalkerweed [390] discloses the radiation source module (176) wherein the angle is about 90 degrees. See Maarschalkerweed [390] fig. 3.

As per claim 5, Maarschalkerweed [390] discloses that the radiation source assemblies (176) are cantilevered from the first support member (160). See Maarschalkerweed [390] fig. 3.

As per claim 10, Maarschalkerweed [390] discloses a first elongate connector (192) between the first support member (160) and a first radiation source assembly (176) and a second elongate connector (192) between the first support member (160) and a second radiation source assembly (176). See Maarschalkerweed [390] figs. 3-4.

As per claim 15, Maarschalkerweed [390] discloses a cleaning system for removing fouling materials from an exterior of the radiation source assemblies. See Maarschalkerweed [390] figs. 4, 6 and col. 6 lines 35-67 and column 7.

As per claim 16, Maarschalkerweed [390] discloses the cleaning system comprising a cleaning ring (308) for engagement with a portion of the exterior of the radiation source assemblies and motive means to translate the slidable member over the exterior of the radiation source assembly (328). See Maarschalkerweed [390] col. 7 lines 1-10, col. 9 lines 1-20, 60-67 and col. 10 lines 1-15.

As per claim 17, Maarschalkerweed [390] discloses the cleaning ring comprising a chamber (244) for surrounding a portion of the exterior of the radiation source

assembly (176). See Maarschalkerweed [390] figs. 3-5, col. 6 lines 35-67, and col. 7 lines 1-10.

As per claim 18, Maarschalkerweed [390] discloses the cleaning ring further comprises an inlet (252) for introduction of a cleaning solution to the chamber (224). See Maarschalkerweed [390] figs. 3-6, col. 6 lines 35-67, and col. 7 lines 1-10.

As per claim 22, Maarschalkerweed [390] discloses the radiation source module comprising a power supply for the radiation source assemblies. See Maarschalkerweed [390] col. 7 lines 50-60.

As per claim 23, Maarschalkerweed [390] discloses the power supply being disposed in a housing attached (276) attached to the first support member (160). See Maarschalkerweed [390] figs. 3-5 and col. 7 lines 50-60.

Claims 1-2, 4, 7-8, 14-16, 19-21, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Wedekamp [820]. As per claim 1, Wedekamp [820] discloses a radiation source module for use in a fluid treatment system, the module comprising: a substantially elongate first support member (2) having a longitudinal first axis; and a first pair of radiation source assemblies (3) extending from the first support member (2), each radiation source assembly (3) comprising a radiation source (3), wherein the first pair of radiation source assemblies is oriented such that a second axis extending through a center point of each radiation source assembly is disposed at an angle with respect to the first axis. See Wedekamp [820] abstract, figs. 1-2, and col. 1 lines 10-35, col. 2 lines 1-11, 30-40, and column 3.

As per claim 2, Wedekamp [820] discloses the angle being about 90 degrees.

See Wedekamp [820] figs. 1-2.

As per claim 4, Wedekamp [820] discloses a plurality of pairs of radiation source assemblies (3) extending from the first support member (2). See Wedekamp [820] abstract, figs. 1-2, and col. 1 lines 10-35, col. 2 lines 1-11, 30-40, and column 3.

As per claim 7, Wedekamp [820] discloses the radiation source module further comprising a substantially elongate second support member (2) spaced from the first support member (2), the radiation source assemblies being supported by both the first support member (2) and the second support member (2). See Wedekamp [820] abstract and figs. 1-2.

As per claim 8, Wedekamp [820] discloses the radiation source assemblies (3) each comprising at least one radiation source disposed with a protective sleeve (6). See Wedekamp [820] abstract, figs. 1-2, and col. 1 lines 10-35, col. 2 lines 1-11, 30-40, column 3, and col. 4 lines 1-20.

As per claim 14, Wedekamp [820] discloses the first radiation source assembly (2) and the second radiation source assembly (3) are in a substantially parallel relationship with respect to one another. See Wedekamp [820] figs. 1-2.

As per claim 15, Wedekamp [820] discloses the radiation source module further comprising a cleaning system for removing fouling materials from an exterior of the radiation source assemblies (3). See Wedekamp [820] col. 3 lines 1-30, 54-67, and col. 4 lines 1-20.

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As per claim 16, Wedekamp [820] disclose the cleaning system comprises; a cleaning ring (15) for engagement with a portion of the exterior of the radiation source assemblies (3) and a motive means (4) to translate the slidable member over the exterior of the radiation source assembly (3). See Wedekamp [820] figs. 1-2, and column 3.

As per claim 19, Wedekamp [820] discloses a single motive means (4) being provided for at least two radiation source assemblies (3). See Wedekamp [820] figs. 1-2, and column 3.

As per claim 20, Wedekamp [820] discloses at least two pairs of radiation source assemblies (3) extending from the first support member (2). See Wedekamp [820] figs. 1-2.

As per claim 21, Wedekamp [820] discloses at least 2 pairs of radiation source (3) assemblies extending from the first support member (3) and a single motive means (4) being provided for each quartet of radiation source assemblies (3). See Wedekamp [820] figs. 2.

As per claim 45, Wedekamp [820] discloses a fluid treatment device comprising at least one radiation source module (3) as defined in claim 1. See Wedekamp [820] figs. 1-2.

Claims 25,27,29-30,34-36,39-41, and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Wedekamp [820]. As per claim 25, Wedekamp [820] discloses a radiation source module for use in a fluid treatment system, the module comprising: a substantially elongate first support member (2) having a longitudinal first axis; and a first

column of radiation source assemblies (3) extending from the first support member (2), and a second column of radiation source assembly (3) extending from the first support member (2), each radiation source assembly (3) comprising a radiation source; the first column of radiation source assemblies (3) and the second column of radiation source assemblies disposed adjacent one another. See Wedekamp [820] abstract, figs. 1-2, and col. 1 lines 10-35, col. 2 lines 1-11, 30-40, and column 3.

As per claim 27, Wedekamp [820] discloses the first column of radiation source assemblies and the second column of radiation source assemblies disposed in a substantially non-staggered relationship with respect to one another. See Wedekamp [820] fig. 2.

As per claim 29, Wedekamp [820] discloses the radiation source module further comprising a substantially elongate second support member (2) spaced from the first support member (2), the radiation source assemblies (3) being support by both the first support member (2) and the second support member (2). See Wedekamp [820] fig. 1.

As per claim 30, Wedekamp [820] discloses the radiation source assemblies (3) each comprising at least one radiation source disposed with a protective sleeve (6). See Wedekamp [820] abstract, figs. 1-2, and col. 1 lines 10-35, col. 2 lines 1-11, 30-40, column 3, and col. 4 lines 1-20.

As per claim 34, Wedekamp [820] discloses the first radiation source assembly and the second radiation source assembly being in a substantially parallel relationship with respect to one another. See Wedekamp [820] figs. 1-2.

As per claim 35, Wedekamp [820] discloses a cleaning system for removing fouling materials from an exterior of the radiation source assemblies. See Wedekamp [820] fig. 1 and col. 3 lines 54-67.

As per claim 36, Wedekamp [820] discloses the cleaning system comprising a cleaning ring (15) for engagement with a portion of the exterior of the radiation source assemblies (3) and motive means (4) to translate the slidable member over the exterior of the radiation source assembly. See Wedekamp [820] fig. 1 and col. 3 lines 60-67.

As per claim 39, Wedekamp [820] discloses a single motive means (4) being provided for at least two radiation source assemblies (3). See Wedekamp [820] figs. 1-2 and col. 3 lines 60-67.

As per claim 40, Wedekamp [820] discloses at least two pairs of radiation source assemblies (3) extending from the first support member (2). See Wedekamp [820] fig. 2.

As per claim 41, Wedekamp [820] discloses at least two pairs of radiation source assemblies (3) extending from the first support member (3) and a single motive means (4) being provided for each quartet of radiation source assemblies (3). See Wedekamp [820] figs. 2.

As per claim 46, Wedekamp [820] discloses a fluid treatment device comprising at least one radiation source module (3) as defined in claim 25. See Wedekamp [820] figs. 1-2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3,6,11-13, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maarschalkerweed [390] in view Glatthar [704]. As per claim 3, Maarschalkerweed [390] teaches all aspects of the claim except for the radiation source assembly being disposed at an acute angle. However, Glatthar [704] does teach varying the angle for the radiation source assembly. See Glatthar [704] col. 1 lines 30-55, col. 3 lines 40-70. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the radiation source assembly disposed at an acute angle in order to insure a more diversified distribution of the germicidal rays as taught in Glatthar [704].

As per claim 6, Maarschalkerweed [390] teaches all aspects of the claim except for the radiation source assemblies being cantilevered from the first support member in a non-perpendicular manner. However, Glatthar [704] does teach varying the angle for the radiation source assembly. See Glatthar [704] col. 1 lines 30-55, col. 3 lines 40-70. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the radiation source assemblies

cantilevered from the first support member in a non-perpendicular manner in order to insure a more diversified distribution of the germicidal rays as taught in Glatthar [704].

As per claim 11, Maarschalkerweed [390] teaches all aspects of the claim except for the first elongate connector and second elongate connector being a substantially non-parallel relationship with respect to one another. However, Glatthar [704] does teach varying the angle of the radiation source assemblies in order to insure a more diversified distribution of the germicidal rays. See Glatthar [704] col. 1 lines 30-55, col. 3 lines 40-70. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the first elongated connector and the second elongated connector in a substantially non-parallel relationship with respect to one another in order to vary the angle in which radiation is emitted from the radiation assemblies and maximize the distribution of radiation through fluid.

As per claim 12, Maarschalkerweed [390] teaches the first elongate connector (192) and the second elongate connector (192) being substantially the same length. See Maarschalkerweed [390] fig. 6.

As per claim 13, Maarschalkerweed [390] teaches all aspects of the claim except for the first elongate connector (192) and the second elongate connector (192) being of a different length. It would have been an obvious matter of design choice to have the first elongated connector (192) and the second elongate connector (192) be of different lengths since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art.

As per claim 24, Maarschalkerweed [390] teaches all aspects of the claim except for the power supply being disposed in the first support member (160). However, Maarschalkerweed [390] does teach electrical wires (220) coming from the power source and going through the first support member (160) to reach the radiation sources (180), which is an equivalent structure known in the art. See Maarschalkerweed [390] figs. 3-4 and col. 7 lines 45-65. Therefore, because these two were art-recognized equivalents at the time the invention was made one of ordinary skill in the art would have found it obvious to substitute the electrical wires disposed in the first support member and connected to a power supply in the ballast for a power supply disposed in the first support member.

Claims 9,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wedekamp [820]. As per claim 9, Wedekamp [820] discloses all aspects of the claimed invention except for the protective sleeve comprising a quartz sleeve. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the protective sleeve be comprised of a quartz sleeve, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

As per claim 22, Wedekamp [820] teaches all aspects of the claimed invention except for explicitly stating that the radiation source module further comprises a power supply for the radiation source assemblies (3). However, Wedekamp [820] does teach that it is known to have electrical supply lines distributed through the frame and the stopper in order to supply the lamps with power. See Wedekamp [820] col. 1 lines 25-

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35 and col. 6 lines 5-10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to distribute electrical supply lines in the frame, as taught by Wedekamp [820] in order to provide power to the radiation source assemblies (3).

Claims 26, 31, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wedekamp [820] in view of Glatthar [704]. As per claim 26, Wedekamp [820] teaches all aspects of the claimed invention except for the first column of radiation source assemblies and the second column of radiation source assemblies being in a substantially staggered relationship with respect to one another. However, Glatthar [704] does teach the first column of radiation source assemblies and the second column of radiation source assemblies being in a substantially staggered relationship with respect to one another. See Glatthar [704] fig. 2, col. 1 lines 30-55, col. 2 lines 40-50, and col. 3 lines 40-70. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the first column of radiation source assemblies and the second column of radiation source assemblies in a substantially staggered relationship with respect to one another in order to permit the end portions of the bases of adjoining units to lie side by side, or overlap laterally in order to achieve the maximum number of units in a minimum space and ensure better irradiation of the fluid as taught in Glatthar [704].

As per claim 31, Wedekamp [820] in view of Glatthar [704] discloses all aspects of the claimed invention except for the protective sleeve comprising a quartz sleeve. It would have been obvious to one having ordinary skill in the art at the time the invention

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was made to have the protective sleeve be comprised of a quartz sleeve, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

As per claim 42, Wedekamp [820] teaches all aspects of the claimed invention except for explicitly stating that the radiation source module further comprises a power supply for the radiation source assemblies (3). However, Wedekamp [820] does teach that it is known to have electrical supply lines distributed through the frame and the stopper in order to supply the lamps with power. See Wedekamp [820] col. 1 lines 25-35 and col. 6 lines 5-10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to distribute electrical supply lines in the frame, as taught by Wedekamp [820] in order to provide power to the radiation source assemblies (3).

Claims 28,32,37-38,42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wedekamp [820] in view of Maarschalkerweed [390]. As per claim 28, Wedekamp [820] teaches all aspects of the claim except for the radiation source assemblies being cantilevered from the first support member. Maarschalkerweed [390] does teach radiation source assemblies (176) being cantilevered from the first support (160). See Maarschalkerweed [390] figs. 3-4,6 and col. 6 lines 40-50. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the radiation source assemblies cantilevered from the first support member in order to allow one to vary the positions of the radiation sources so as to better irradiate the fluid and also make it easier to replace damage radiation sources.

As per claim 32, Maarschalkerweed [390] teaches a first elongate connector (192) between the first support member (160) and a first radiation source assembly (176) and a second elongate connector (192) between the first support member (160) and a second radiation source assembly (176). See Maarschalkerweed [390] figs. 3-4.

As per claim 37, Maarschalkerweed [390] discloses the cleaning ring comprising a chamber (244) for surrounding a portion of the exterior of the radiation source assembly (176). See Maarschalkerweed [390] figs. 3-5, col. 6 lines 35-67, and col. 7 lines 1-10.

As per claim 38, Maarschalkerweed [390] discloses the cleaning ring further comprises an inlet (252) for introduction of a cleaning solution to the chamber (224). See Maarschalkerweed [390] figs. 3-6, col. 6 lines 35-67, and col. 7 lines 1-10.

As per claim 42, Maarschalkerweed [390] teaches the radiation source module comprising a power supply for the radiation source assemblies. See Maarschalkerweed [390] col. 7 lines 50-60.

As per claim 43, Maarschalkerweed [390] teaches the power supply being disposed in a housing attached (276) attached to the first support member (160). See Maarschalkerweed [390] figs. 3-5 and col. 7 lines 50-60.

Claim 33,44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wedekamp [820] in view of Maarschalkerweed [390] as applied to claim 32 above, and further in view of Glatthar [704]. As per claim 33, Wedekamp [820] in view of Maarschalkerweed [390] teach all aspects of the claim except for the first elongate connector and second elongate connector being a substantially non-parallel relationship

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with respect to one another. However, Glatthar [704] does teach varying the angle of the radiation source assemblies in order to insure a more diversified distribution of the germicidal rays. See Glatthar [704] col. 1 lines 30-55, col. 3 lines 40-70. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the first elongated connector and the second elongated connector in a substantially non-parallel relationship with respect to one another in order to vary the angle in which radiation is emitted from the radiation assemblies and maximize the distribution of radiation through fluid.

As per claim 44, Maarschalkerweed [390] teaches all aspects of the claim except for the power supply being disposed in the first support member (160). However, Maarschalkerweed [390] does teach electrical wires (220) coming from the power source and going through the first support member (160) to reach the radiation sources (180), which is an equivalent structure known in the art. See Maarschalkerweed [390] figs. 3-4 and col. 7 lines 45-65. Therefore, because these two were art-recognized equivalents at the time the invention was made one of ordinary skill in the art would have found it obvious to substitute the electrical wires disposed in the first support member and connected to a power supply in the ballast for a power supply disposed in the first support member.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 5,937,266 to Kadoya, 6,013,917 to Ishiyama, 6,015,229 to Cormack et al, 6,342,188 to Pearcey et al, Re. 36,896 to Maarschalkerweerd, and 5,504,335 to Maarschalkerweerd. Kadoya [266] is considered pertinent to the applicant's disclosure because of its discussion on a light irradiating device employing light irradiating modules equipped with a cleaning mechanism. Ishiyama [917] is considered pertinent to the applicant's disclosure because of its discussion on a UV ray irradiation apparatus having scraper rings fitted to light transmission tubes. Cormack [229] is considered pertinent to the applicant's disclosure because of its discussion of a method and apparatus for improving mixing in fluids. Pearcey [188] is considered pertinent to the applicant's disclosure because of its discussion on a radiation source module and cleaning apparatus. Maarschalkerweerd [335] and Maarschalkerweerd [896] are considered pertinent to the applicant's disclosure because their discussion on fluid treatment devices and methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (703)-308-6555. The examiner can normally be reached on M-F from 9 a.m. to 5 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee, can be reached on (703)-308-4116. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.

A. Quash

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